What is claimed is:

1.   A method of decoding DCT-encoded blocks of a data signal, the method
comprising:

(a) predetermining a plurality of subsets of DCT coefficient positions;

(b) receiving a set of DCT coefficients obtained from DCT-encoding a corresponding
portion of a data signal;

(c) selecting one of said subsets of DCT coefficient positions according to a value of a
predetermined one of the received DCT coefficients;

(d) performing IDCT decoding on the selected subset of DCT coefficients to recover a
representation of the corresponding portion of the data signal; and

(e) repeating steps (b), (c), and (d) for successive sets of DCT coefficients.

2.   The method according to claim 1, wherein the data signal is video data
encoded according to the MPEG algorithm.

3.   The method according to claim 1, wherein the data signal is video data
encoded according to the MPEG2 algorithm.

4.   The method according to claim 3, wherein the data signal is an 8x8
macroblock of pixels, and the predetermined one of the received DCT coefficients is the fifty-
seventh DCT coefficient.

5.   The method according to claim 3, wherein the data signal is an 8x8
macroblock of pixels, and the predetermined one of the received DCT coefficients is the sixty-
fourth DCT coefficient.

6.   The method according to claim 3, wherein the data signal is an 8x8
macroblock of pixels, and the predetermined one of the received DCT coefficients is the eighth
DCT coefficient.

1   7.   The method according to claim 3, wherein:

2   the plurality of predetermined subsets of DCT coefficients consist of two subsets:

3   a first subset consisting of the first, second, third, fourth, ninth, tenth,

4   eleventh, twelfth, seventeenth, eighteenth, nineteenth, twentieth, twenty-fifth,

5   twenty-sixth, twenty-seventh, and twenty-eighth positions; and

6   a second subset consisting of the first, second, third, fourth, ninth, tenth,

7   eleventh, twelfth, seventeenth, eighteenth, nineteenth, twentieth, twenty-fifth,

8   twenty-sixth, twenty-seventh, twenty-eighth, thirty-third, thirty-fourth, thirty-fifth,

9   thirty-sixth, forty-first, forty-second, forty-third, forty-fourth, forty-ninth, fiftieth,

10   fifty-first, fifty-second, fifty-seventh, fifty-eighth, fifty-ninth, and sixtieth

11   positions;

12   IDCT decoding is performed on the first subset of coefficient positions if the value of the

13   predetermined one of the DCT coefficients is below a predetermined threshold; and

14   IDCT decoding is performed on the second subset of DCT coefficients if the value of the

15   predetermined one of the DCT coefficients is equal to or greater than the predetermined

16   threshold.

1   8.   Apparatus for decoding DCT-encoded blocks of a data signal, the

2   apparatus comprising:

3   a data store for storing a predetermined plurality of subsets of DCT coefficient positions;

4   a receiver for receiving a set of DCT coefficients obtained from DCT-encoding a portion

5   of said data signal;

6   computation means for:

7   selecting one of said subsets of DCT coefficient positions according to a

8   value of a predetermined one of the received DCT coefficients; and

9   performing IDCT decoding on the selected subset of DCT coefficients to

10   recover a representation of the corresponding portion of the data signal; and

11   control logic for routing successive sets of DCT coefficients through the receiver and

12   computation means.

1   9.   The apparatus according to claim 8, arranged for use wherein the data

2   signal is video data encoded according to the MPEG algorithm.

1   10.   The apparatus according to claim 8, arranged for use wherein the data

2   signal is video data encoded according to the MPEG2 algorithm.

1   11.   The apparatus according to claim 10, arranged for use wherein the data

2   signal is an 8x8 macroblock of pixels, and wherein the predetermined one of the received DCT

3   coefficients is the fifty-seventh DCT coefficient.

1   12.   The apparatus according to claim 10, arranged for use wherein the data

2   signal is an 8x8 macroblock of pixels, and wherein the predetermined one of the received DCT

3   coefficients is the sixty-fourth DCT coefficient.

1   13.   The apparatus according to claim 10, arranged for use wherein the data

2   signal is an 8x8 macroblock of pixels, and wherein the predetermined one of the received DCT

3   coefficients is the eighth DCT coefficient.

1   14.   The apparatus according to claim 10, wherein:

2   the plurality of predetermined subsets of DCT coefficients consist of two subsets:

3   a first subset consisting of the first, second, third, fourth, ninth, tenth,

4   eleventh, twelfth, seventeenth, eighteenth, nineteenth, twentieth, twenty-fifth,

5   twenty-sixth, twenty-seventh, and twenty-eighth positions; and

6   a second subset consisting of the first, second, third, fourth, ninth, tenth,

7   eleventh, twelfth, seventeenth, eighteenth, nineteenth, twentieth, twenty-fifth,

8   twenty-sixth, twenty-seventh, twenty-eighth, thirty-third, thirty-fourth, thirty-fifth,

9   thirty-sixth, forty-first, forty-second, forty-third, forty-fourth, forty-ninth, fiftieth,

10   fifty-first, fifty-second, fifty-seventh, fifty-eighth, fifty-ninth, and sixtieth

11   positions;

12   the computation means performs IDCT decoding on the first subset of coefficient positions

13   if the value of the predetermined one of the DCT coefficients is below a predetermined threshold;

14   and

15   the computation means performs IDCT decoding on the second subset of DCT coefficients

16   if the value of the predetermined one of the DCT coefficients is equal to or greater than the

17   predetermined threshold.